

REMARKS

Claims 1, 2, 7-9, 12-32 and 39-41 are pending in this application. By this Amendment, claims 1, 2, 7-9, 12-15, 24, 25 and 29-32 are amended; and new claims 39-41 are added. Claims 3-6, 10, 11 and 33-38 are canceled without prejudice to, or disclaimer of, the subject matter recited therein. Support for the amendments and the new claims can be found, for example, in the claims as originally filed (see claims 6 and 11). No new matter is added.

In view of the foregoing amendments and the following remarks, reconsideration and allowance of the claims are respectfully requested.

I. Rejection Under 35 U.S.C. §112

The Patent Office rejects claims 3 and 6 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Claim 3 is canceled, thus rendering the rejection moot as to that claim. Claim 1 is amended to incorporate the subject matter of claim 6. Thus, this rejection is respectfully traversed as to claim 1.

The Patent Office asserts there is insufficient antecedent basis for the feature "poly(γ -benzyl-L-glutamate)" because "poly(γ -benzyl-L-glutamate)" allegedly does not meet the requirement of peptide motifs having free hydrogen atoms with some or all of the free hydrogen atoms of the peptide motifs participating in non-covalent hydrogen bonds within the rod-block structure, as recited in claim 1. Applicants respectfully disagree.

The peptide motifs of (γ -benzyl-L-glutamate) structure within the rod-block structure is represented by the following formula:



As shown above, free hydrogen atoms are attached to the nitrogen atoms of the peptide motifs of (γ -benzyl-L-glutamate). These hydrogen atoms participate in non-covalent hydrogen bonds within the rod-block structure of the type: -N-H - - -O=C-.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejections Under 35 U.S.C. §102

A. Thunemann

The Patent Office rejects claims 1-15, 17-19, 24-35 and 38 under 35 U.S.C. §102(b) as allegedly being anticipated by Thunemann et al. (Macromolecules, 2000) ("Thunemann"). Claims 3-6, 10, 11, 33-35 and 38 are canceled, thus rendering the rejection moot as to those claims. As to the remaining claims, this rejection is respectfully traversed.

Claim 1 recites:

A cosmetic composition, comprising at least one rod-coil type block copolymer comprising at least one polymeric coil-block structure of variable conformation bonded to at least one rod-block structure of restricted conformation, wherein:

the at least one rod-coil type block copolymer is provided in a physiologically acceptable medium; and

the rod-block structure is of polymeric nature and is constituted in full, or in part, by peptide motifs having free hydrogen atoms with some or all of the free hydrogen atoms of the peptide motifs participating in non-covalent hydrogen bonds within the rodblock structure,

the rod-block structure being selected from the group consisting of:

- poly(L-leucine), poly(L-valine), poly(phenylalanine);
- poly(L-glutamic acid) and salts thereof;
- polyglutamine;
- polypeptide copolymers selected from the group consisting of poly(hydroxyethyl-L-glutamine and leucine), poly(hydroxyethyl-L-glutamine and valine), poly(γ -benzyl-L-glutamate and leucine), poly(γ -benzyl-L-glutamate and D,L-phenylalanine), poly(γ -benzyl-L-glutamate and cinnamylglutamate), poly(N-benzyloxycarbonyl-L-lysine and γ -benzyl-L-glutamate) and salts thereof; and
- derivatives thereof;

the polymeric coil-block structure being selected from the group consisting of:

- polyethers of the ethylene polyoxide type, propylene polyoxide and copolymers thereof;
- homopolymers of siloxane; and
- copolymers, salts and derivatives thereof.

Claim 32 recites similar features. Thunemann does not disclose each feature of claims 1 and 32.

Thunemann discloses the results of a study relating to properties of complexes formed by poly(ethylene oxide)-*b*-poly(L-lysine) (Thunemann, Abstract). More specifically, Thunemann discloses a composition comprising a rod-coil type copolymer having at least one polymeric coil-block structure, such as polyethylene oxide, bonded to at least one rod-block structure, such as poly(L-lysine) (Thunemann, page 5909, second column). However, Thunemann does not disclose a rod-block structure being a compound selected from the group recited in claims 1 and 32. Thus, Thunemann does not disclose a cosmetic composition comprising at least one rod-coil type block copolymer comprising at least one polymeric coil-block structure of variable conformation bonded to at least one rod-block structure of restricted conformation having the compositional features as recited above in claim 1, and similarly in claim 32.

Based on the above, Thunemann fails to disclose each and every feature of claims 1 and 32 and, thus, does not anticipate claims 1 and 32. The remaining claims variously depend from claim 1 and, likewise, are also not anticipated by Thunemann for at least the reasons set forth above with respect to claim 1, as well as for the additional features recited therein.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Kwon

The Patent Office rejects claims 1-6, 9-11, 14, 15, 17, 29-35 and 38 under 35 U.S.C. §102(b) as allegedly being anticipated by Kwon et al. (Pharmaceutical Research, 1999) ("Kwon"). Claims 3-6, 10, 11, 33-35 and 38 are canceled, thus rendering the rejection moot as to those claims. As to the remaining claims, this rejection is respectfully traversed.

Kwon discloses soluble block copolymers such as: A poly(ethylene-oxide)-block-poly(aspartic acid) (PEO-b-PAA), PEO-b-poly(β -benzyl-L-aspartate), PEO-b-poly(D,L lactic acid), and PEO-b-poly(L-lysine) (Kwon, pages 597-98). However, Kwon suffers from similar deficiencies as Thunemann with respect to claims 1 and 32. Namely, Kwon does not disclose a rod-block structure being a compound selected from the group, as recited in claims 1 and 32. Thus, Kwon does not disclose a cosmetic composition comprising at least one rod-coil type block copolymer comprising at least one polymeric coil-block structure of variable conformation bonded to at least one rod-block structure of restricted conformation having the compositional features, as recited in claim 1.

Based on the above, Kwon fails to disclose each and every feature of claims 1 and 32 and, thus, does not anticipate claims 1 and 32. The remaining claims variously depend from claim 1 and, likewise, are also not anticipated by the applied reference for at least the reasons set forth above with respect to claim 1, as well as for the additional features recited therein.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Rejections Under 35 U.S.C. §103**A. Kwon and Willey**

The Patent Office rejects claims 1-6, 9-11, 14, 15, 17, 29-35 and 38 under 35 U.S.C. §103(a) as allegedly being unpatentable over Kwon in view of U.S. Patent No. 5,470,510 to Willey et al. ("Willey"). Claims 3-6, 10, 11, 33-35 and 38 are canceled, thus rendering the

rejection moot as to those claims. As to the remaining claims, this rejection is respectfully traversed.

The above discussion with respect to Kwon applies.

For at least the reasons presented below, Kwon and Willey would not have rendered obvious each and every feature of claims 1 and 32.

As background, polymers compounds are frequently used in cosmetic compositions to provide, *inter alia*, improved formulations, increased durability and added comfort. For example, acrylic polymers are often used in hair styling products to enable hairstyles to hold better. In order for the hair styling product to have a long lasting effect, plasticizers can be added to lower the glass transition temperature. However, this can generate a sticky effect with use of the product and/or decrease its holding power. Similar challenges exist with respect to nail varnishes and other cosmetic products. Thus, there is a need for a cosmetic composition comprising polymers that yield superior results with respect to mechanical strength as well as stickiness (specification, page 1). The claimed cosmetic composition addresses these needs by providing a composition comprising at least one rod-coil type block copolymer comprising at least one polymeric coil-block structure of variable conformation bonded to at least one rod-block structure of restricted conformation, having the compositional features recited in claims 1 and 32.

Applicants' have discovered a synergistic effect resulting from the rod-coil-type block copolymer comprised of the coil-block structure and rod-block structure having the compositional features recited in claims 1 and 32 (specification, page 42-45). As shown in Examples 4-6 of the specification, the claimed rod-coil-type block copolymer yields superior results when used in cosmetic compositions for the hair and nails, particularly with respect to a sticky effect. These features and benefits are not disclosed in Kwon or Willey, nor do the applied references disclose how to achieve these features, or even that these features could be

achieved. The references thus provide no reason or rationale for one of ordinary skill in the art to have combined and modified the references in manner necessary to have obtained the claimed composition with any reasonable expectation of success or improvement, without the benefit of Applicants' specification.

More specifically, Kwon relates to micelle-like structures or nanospheres provided by the self-assembly of block copolymers that may be useful for drug delivery; and Willey is directed to the use of polymers of glutamic acid as a dispersing, soil-suspending or anti-redeposition agent in laundry detergents or cleaning compositions (see Kwon, page 597; and Willey, Abstract and col. 1, lines 1-4).

Further given the unpredictability of how various chemicals will react with one another, it is respectfully asserted that the Office Action must provide some reason or rationale that would have guided one of ordinary skill in the art to have chosen the specific poly(L)amino acid to be poly(L-glutamic acid). This is emphasized by the fact that Kwon's article is directed to a need to research these compositions, with no reason or rationale to have chosen any specific amino acid over another (Kwon, page 597 and page 599, first column). Thus, any assertion that one of ordinary skill in the art at the time of the invention would have somehow modified Kwon in view of Willey to have replaced the poly(L)amino acid with L-glutamic acid, without any reason or rationale in the applied references for such a replacement, is improper hindsight reasoning based solely on Applicants' disclosure and does not constitute a showing of *prima facie* obviousness.

Based on the above, Kwon and Willey would not have rendered claims 1 and 32 obvious. The remaining claims variously depend from claim 1 and, likewise, would not have been rendered obvious by the applied references for at least the reasons set forth above with respect to claim 1, as well as for the additional features recited therein. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Kwon and Cooper

The Patent Office rejects claims 1-6, 9-11, 14, 15, 17-35 and 38 under 35 U.S.C. §103(a) over Kwon in view of WO 95/22991 to Cooper et al. ("Cooper"). Claims 3-6, 10, 11, 33-35 and 38 are canceled, thus rendering the rejection moot as to those claims. As to the remaining claims, this rejection is respectfully traversed.

The above discussions with respect to Kwon under §§102 and 103 apply.

Cooper does not cure the deficiencies of Kwon with respect to claims 1 and 32. Cooper is directed to linear block copolymers comprising units of an alkylene oxide, linked to peptide units by a linking group, which are useful as an imaging agent, drug, prodrug, or as a delivery system for imaging agents, drugs or prodrugs (Cooper, Abstract and page 2, lines 14-33). Cooper thus provides no reason or rationale for one of ordinary skill in the art to have modified the composition of Kwon in the manner necessary to have included each feature of claims 1 and 32 with any reasonable expectation of success, without the benefit of Applicants' specification.

Based on the above, Kwon and Cooper would not have rendered claims 1 and 32 obvious. The remaining claims variously depend from claim 1 and, likewise, also would not have been rendered obvious by the applied references, for at least the reasons set forth above with respect to claim 1, as well as for the additional features recited therein. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. New Claims

By this Amendment, new claims 39-41 are added. Claims 39-41 depend from claim 1 and, thus, are patentable for at least the reasons discussed above with respect to claim 1, as well as for the additional features recited therein.

Prompt examination and allowance of new claims 39-41 are respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Petition for Extension of Time

Date: September 3, 2010

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